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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/410,916	10/01/99	LUDWIG J	PIPE/04

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IM52/0619

EXAMINER

CHORBAJI, M

ART UNIT	PAPER NUMBER
1744	4

DATE MAILED: 06/19/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/410,916	Applicant(s) LUDWIG, JEROME H.	
	Examiner MONZER R CHORBAJI	Art Unit 1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 1999.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- | | |
|---|--|
| 15) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 18) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 16) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 19) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 17) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3</u> . | 20) <input type="checkbox"/> Other: |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 10, lines 2-3, applicant uses the terms "an inert gas and combustion gas" after using the phrase consisting of. The meaning of the above terms is not clear. It would be better understood if the applicant uses specific names for the heated gas. Clarification is needed to understand the meaning of claim 10.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pope et al (U.S.P.N. 6,221,263) in view of Williams et al (U.S.P.N. 6,183,646) and further in view of Loucks (U.S.P.N. 3,084,076), Singh (U.S.P.N. 5,512,249), and Ludwig et al (U.S.P.N. 6,076,536).

In the art of sterilizing a fire sprinkler system (col.1, lines 6-8), Pope et al teaches the following concepts: delivery of an antimicrobial chemicals (col.2, lines 14-19) into fire sprinkler system by injection means (col.1, lines 40-41) in an amount sufficient to kill microorganisms (col.2, lines 2-5) and sterilize the section (col.3, line 30); and maintaining the sterility of the system (col.1, lines 16-19). Pope et al further teaches and motivates that embodiments, forms, and the like will be apparent to and can be adopted by one skilled in the art (col.3, lines 46-50). In addition; Pope et al teaches that any antimicrobial chemical can be used to sterilize fire sprinkler system (col.2, lines 16-17). Thus, Pope et al does establish the motivation (why there is a need to sterilize fire sprinkler systems) and the various concepts (apparatus and method) of sterilizing fire sprinkler systems.

Pope et al does not teach the following specific concepts: the use of an antimicrobial gas with certain temperature, pressure and time ranges; the use of sterile gas; the use of sterilized water; the use of second sterile gas; inactivating the sprinkler heads; the use of temperature sensors; and the use of steam.

In the art of sterilizing a fire sprinkler system (col.3, lines 11-20 and col.4, lines 18-21), Williams et al teaches the concept of the usage of antimicrobial gas (col.3, line 19) as ozone.

Williams et al does not teach the following concepts: the use of an antimicrobial gas with certain temperature, pressure and time ranges; the use of sterilized water; the use of second sterile gas; inactivating the sprinkler heads; the use of temperature sensors; and the use of steam.

In the art of sterilizing the interior walls of pipe networks or ducts, Loucks teaches the concept of using steam comprising other chemicals to sterilize the interior surfaces of pipes (col.1, lines 9-15). Loucks further teaches that steam has temperature, pressure and time ranges (col.3, lines 70-71, col.7, lines 67-68, and col.8, line 15).

Loucks does not teach the following concepts: the use of sterilized water; the use of second sterile gas; inactivating the sprinkler heads; the use of temperature sensors; and the use of steam.

In the art of sterilizing conduit or piping systems (fire sprinkler system), Singh teaches the following concepts: the use of temperature sensors (col.3, lines 5-8); and the use of steam (col.1, lines 4-5) as an antimicrobial gas.

Singh does not teach the following concepts: the use of sterilized water; the use of second sterile gas; and inactivating the sprinkler heads.

In the art of sterilizing fire sprinkler systems (abstract, lines 1-12), Ludwig et al teaches the following concepts: the use of sterilized water (col.2, line 40);

the use of second sterile gas (col.2, line 40); and inactivating the sprinkler heads (col.5, line 19).

Thus, it would have been obvious (in the art of sterilizing fire sprinkler systems, Pope et al teaches the concepts of using antimicrobial agents in liquid forms; In the art of sterilizing fire sprinkler systems, Williams et al teaches the concepts of using an antimicrobial gas agent; in the art of sterilizing pipe networks, Loucks teaches the concept of using steam comprising other chemical agents; in the art of sterilizing pipe networks, Singh teaches the concept of using of steam; and in the art of sterilizing fire sprinkler systems, Ludwig et al teaches the concepts of isolating, returning and using sterilized water and second sterile gas as well) and one having ordinary skill in the art would have been motivated to combine the teaching of Pope et al with the above mentioned references in order to provide a much better assurance that the required temperature will be maintained for the full sterilization time (please see Singh, col.4, lines 52-53).

Conclusion

5. The prior art made of record but not relied upon is considered pertinent to applicant's disclosure. Cummings, Jr. (U.S.P.N. 5,051,193), Freedman et al (U.S.P.N. 3,984,302), Talley (U.S.P.N. 5,803,180), Alguire et al (U.S.P.N. 4,301,113), and Esser (U.S.P.N. 5,368,651) teaches other similar concepts in the art of sterilizing piping networks.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MONZER R CHORBAJI whose telephone number is (703) 305-3605. The examiner can normally be reached on M-F 8:30-5:00.

7. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ROBERT J WARDEN can be reached on (703) 308-2920. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3599 for regular communications and (703) 305-7719 for After Final communications.

8. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Monzer R. Chorbaji *MR*
Patent Examiner
AU 1744
June 18, 2001

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